Claims

Sub. A1.

1. A method for producing a heat exchanger (23, 33, 59) having a flow-through chamber (29) for a heat transfer medium, in which two walls (13, 15), in particular of sheet copper, are disposed facing one another and are joined to make a hollow body (23, 33, 59) through which a medium can flow, and the walls are fastened to one another at a plurality of connecting points (11) inside the surface between the edges of the hollow body (23, 33, 59), characterized in that the two walls (13, 15) are made to mesh with one another inside the surface between the edges of the hollow body (23, 33, 59) by deformation of the material.

2. The method of claim 1, characterized in that the material deformation is performed in punctate fashion, preferably with a diameter of from 3 to 6 mm.

3. The method of claim 1 or 2, characterized in that at least one and preferably both walls are provided with circular indentations, and the connections are made in the region of the indentations with spacing on all sides from the edge thereof.

4. The method of one of claims 1-3, characterized in that the walls are preshaped prior to being joined.

5. The method of one of claims 1-5, characterized in that the hollow body (23, 33, 59) is exposed to an internal pressure that is elevated compared to the external pressure.

6. The method of one of claims 1-5, characterized in that the denticulation of the walls is stabilized by pressing on a ring around the deformation and inserting a disk in the deformation.

7. A heat exchanger (23, 33, 59) with two joined- together walls (13, 15) and between them a flow-through chamber (29) for a heat transfer medium, in which the walls (13, 15) are joined together at a plurality of connecting points (11) inside the surface between the edges of the heat exchanger (23, 33, 59), characterized in that the walls (13, 15) are made to mesh with one another at the connecting points (11) inside the surface between the edges of the heat exchanger and are fastened to one another by means of these denticulations (11).

8. The heat exchanger of claim 7, characterized in that the mutual denticulations (11) of the walls (13, 15) are embodied annularly.

9. The heat exchanger of claim 8, characterized in that a ring (82) encompassing the toothed place (11) is provided.

10. The heat exchanger of one of claims 7-9, characterized in that the denticulations (11) are produced by an upsetting-pressing process and without penetration of the sheet metal.

11. The heat exchanger of one of claims 7-10, characterized in that at least one wall comprises sheet copper, in particular with a thickness of from 0.3 to 0.8 mm, preferably 0.5 to 0.65 mm.

12. The heat exchanger of one of claims 7-11, characterized in that the denticulations (11) are disposed with a mutual spacing of from 10 to 50 mm, and preferably of between 20 and 30 mm.

13. The heat exchanger of one of claims 7-12, characterized in that the denticulations (11) are disposed in rows or in a grid pattern.

14. The heat exchanger of one of claims 7-13, characterized in that the denticulations (11) are disposed inside an approximately circular indentation (59) of the wall.

15. The use of a compression-molding sheet-metal joining method for mutual punctate fastening (11) of two parallel walls (13, 15) that enclose a flow-through chamber (29) of a heat exchanger.

16. A construction kit for a heat exchanger system, having a plurality of heat exchangers as defined by one of claims 6-12 and having connecting elements for the connections of the heat exchangers.

17. The construction kit of claim 16, characterized in that the connecting elements are plug connectors.

18. The construction kit of claim 16 or 17, having a pump.

19. The construction kit of one of claims 16-18, having a hot-water tank.

20. A method for producing a heat exchanger (23, 33, 59) having a flow-through chamber (29) for a heat transfer medium, in which two walls (13, 15), are disposed facing one another and are joined together to make a hollow body (23, 33, 59) capable of experiencing a flow through it, and the walls are fastened to one another at a plurality of connecting points (11) inside the surface between the edges of the hollow body (23, 33, 59), characterized in that in at least one and preferably both walls (13, 15) at the connecting points (11) inside the surface between the edges of the hollow body (23, 33, 59), circular indentations (59) that provide reinforcement by deformation of the material are shaped out, and the sheet-metal walls are subsequently joined together inside these indentations (59) by means of a material engagement or positive engagement.

21. A heat exchanger produced by the method of claim 20.

Add A2